

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on June 20, 2003, and the references cited therewith.

Claims 13, 42, and 52 are amended, no claims are canceled, and no claims are added; as a result, claims 10-16 and 37-58 remain pending in this application.

§103 Rejection of the Claims

Claims 13, 15 and 16 were rejected under 35 U.S.C. § 103(e) as being unpatentable over Fiordalice et al. (U.S. Patent No. 5,420,072) taken with Mikoshiba et al. The Applicant has amended claims 13, 42, and 52 to describe the second layer of titanium nitride as “comprising a polycrystalline orientation having a 1:1 ratio of <111> to <200> grain size effective for forming aluminum of small grain size.”

The Fiordalice patent describes the second layer of titanium nitride as having a grain size of <111>. The Fiordalice patent did not contemplate that a 1:1 mixture of grain size would create an aluminum layer having a small grain size that is conformable to surfaces having complex topographies. Neither Fiordalice nor Mikoshiba et al. describes a grain size such as is claimed. Thus, neither of these references renders the present invention obvious.

Claim 15 was rejected under 35 U.S.C. § 103(a) as being anticipated by Fiordalice et al. (U.S. Patent No. 5,420,072) taken with Mikoshiba as applied to claims 13, 15 and 16 above and further in view of Sandhu or Sandhu et al. For reasons discussed, these references do not render the present invention obvious. The Sandhu or Sandhu et al. reference does not describe a 1:1 mixture of grain size that would create an aluminum having a small grain size that is conformable to surfaces having complex topographies.

The Examiner rejected claims 42-45, 47 and 48 under 35 U.S.C. 103(a) as being unpatentable over Fiordalice et al. taken with Mikoshiba et al. and Chen et al. or Nulman. As discussed above, Fiordalice and Mikoshiba et al. do not describe a 1:1 mixture of grain size that would create an aluminum having a small grain size that is conformable to surfaces having complex topographies. Neither Chen et al. nor Nulman discusses these features either. Thus, Applicant asserts that the references do not render claims 42-45 and 48 obvious.

The Examiner rejected claims 46, 47 in light of the references cited above and in further view of Matsumoto or Sandhu or Sandhu et al. As discussed above, the references cited do not include all of the elements claimed. The Matsumoto reference does not correct this deficiency and does not render the claim 46 obvious.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6976 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

WING-CHEONG G. LAI ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6976

Date 22 September 03

By Janal M. Kalis
Janal M. Kalis
Reg. No. 37,650

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 22 day of September, 2003.

Name

Tina Kohast

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